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made.”<sup>50</sup> To fulfill this function, an EIR must be detailed, complete, and must “reflect a good faith effort at full disclosure.”<sup>51</sup> An adequate EIR must also contain facts and analysis, not just an agency’s conclusions.<sup>52</sup> In the case at hand, the DEIR/S does not meet these requirements.

The DEIR/S does not provide the necessary facts and analyses of the Project’s potential impact on the GEA to allow the Authority and the public to make an informed decision concerning the project alternatives and mitigation measures. In many cases, the DEIR/S fails to even indicate whether an impact is considered significant, less than significant or reduced to less than significant after mitigation. Where the DEIR/S does make findings as to an impacts significance, it often fails to provide supporting evidence for its conclusions.

### C. Adopting Feasible Mitigation Measures

Both CEQA and NEPA require the proposal and description of mitigation measures sufficient to minimize the significant adverse environmental impacts identified in the EIR.<sup>53</sup> This requirement is the heart of CEQA. CEQA imposes an affirmative obligation on agencies to avoid or to reduce environmental harm by adopting feasible project alternatives or mitigation measures.<sup>54</sup> Without an adequate analysis and description of feasible mitigation measures, it would be impossible for the Authority to meet this obligation.

Mitigation measures must be designed to minimize, reduce or avoid an identified environmental impact or to rectify or to compensate for that impact.<sup>55</sup> A public agency may not rely on mitigation measures of uncertain efficacy or feasibility.<sup>56</sup> “Feasible” means capable of being accomplished in a successful

<sup>50</sup> *Laurel Heights Improvement Assn. v. Regents of the University of California* (1993) 6 Cal.4th 1112, 1123.

<sup>51</sup> CEQA Guidelines § 15151; *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 721-722.

<sup>52</sup> See *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 568 (1990).

<sup>53</sup> Pub. Res. Code §§ 21002.1(a), 21100(b)(3); 40 C.F.R. §§ 1502.14(f), 1502.16(h); *Robertson v. Methow Valley Citizens Council* (1989) 420 U.S. 332, 352.

<sup>54</sup> Pub. Res. Code §§ 21002-21002.1.

<sup>55</sup> CEQA Guidelines § 15370.

<sup>56</sup> *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 727 (finding groundwater purchase agreement inadequate mitigation measure because no record evidence existed 1124-339d

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manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors.<sup>57</sup> Mitigation measures must be specific and fully enforceable through permit conditions, agreements or other legally binding instruments.<sup>58</sup> Mitigation measures that are vague, or so undefined that it is impossible to evaluate their effectiveness, are legally inadequate.<sup>59</sup>

An agency must identify mitigation measures for significant impacts *before* it issues a proposed EIR for public review.<sup>60</sup> Mitigation measures adopted *after* project approval cannot validate the issuance of an EIR, since this deferral denies the public the opportunity to comment on the project as modified to mitigate impacts.<sup>61</sup> Accordingly, deferral of the formulation of mitigation measures to post-approval studies is generally impermissible.<sup>62</sup> An agency may only defer the formulation of mitigation measures when it “recognizes the significance of the potential environmental effect, commits itself to mitigating its impact, and articulates *specific performance criteria* for the future mitigation.”<sup>63</sup>

Here, the DEIR/S consistently fails to identify feasible mitigation measures capable of mitigating the significant environmental impacts of the project alternatives and cumulative impacts. In particular, the DEIR/S fails to provide any mitigation analysis whatsoever relating to its potential impacts on the habitat and wildlife within the GEA.

Furthermore, where the DEIR/S does identify potential impacts, it repeatedly fails to articulate specific, enforceable mitigation measures or mitigation performance criteria. Instead, the DEIR/S refers to what it calls “mitigation strategies.” These “mitigation strategies” are almost entirely vague and

that replacement water was available).

<sup>57</sup> CEQA Guidelines § 15364.

<sup>58</sup> *Id.* at § 15126.4(a)(2).

<sup>59</sup> *San Franciscans for Reasonable Growth v. City & County of San Francisco* (1984) 151 Cal.App.3d 61, 79.

<sup>60</sup> Public Res. Code § 21061.

<sup>61</sup> *Gentry v. City of Murrieta* (1995) 36 Cal.App.4th 1359, 1393; *Quail Botanical Gardens Foundation v. City of Encinitas* (1994) 29 Cal.App.4th 1597, 1604, fn. 5.

<sup>62</sup> *Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 296, 308-309.

<sup>63</sup> *Gentry*, 36 Cal.App.4th at 1411 (emphasis provided), citing *Sacramento Old City Assn. v. City Council* (1991) 229 Cal.App.3d 1011, 1028-1029.

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unenforceable statements that lack any "specific performance criteria." Accordingly, it is impossible to determine their efficacy in reducing significant impacts to less than significant.

Nonetheless, the DEIR/S improperly and repeatedly concludes that significant impacts are rendered less than significant on the basis that unspecified "mitigation strategies" would be developed during future project-level review.<sup>64</sup>

In particular, the DEIR/S provides vague and insufficient mitigation measures for the following categories of impacts:

**Transportation:** "Consultation and coordination with public transit services in order to encourage the provision of adequate bus feeder routes to serve proposed station areas could mitigate potential transit feeders." DEIR/S page 3.1-24

**Air Quality:** "Potential localized impacts could be addressed at the project level by promoting the following measures: Increase use of public transit; increase use of alternative fuel vehicles; increase parking for carpools, bicycles, and other alternatives transportation modes." DEIR/S page 3.3-33.

**Construction:** "Potential construction impacts, which should be analyzed once more detailed project plans are available, can be mitigated by following local and state guidelines." DEIR/S page 3.3-33.

**Noise and Vibration:** "More detailed mitigation strategies for potential noise and vibration impacts would be developed in the next stage of environmental analysis." DEIR/S page 3.4-23. "This program level analysis has identified areas where future analysis should be given to potential HST-induced vibrations." DEIR/S page 3.4-24.

**Energy:** "The design particulars would be developed at the project-level of analysis..." DEIR/S page 3.5-22.

**Land Use:** "Local land use plans and ordinances would be further considered in the selection of alignments and station locations..." DEIR/S page 3.7-26.

<sup>64</sup> See, e.g., DEIR/S Table 7.3-1.

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**Agriculture:** "Consideration of potential mitigation such as protection or preservation of off-site lands to mitigate conversion of farmlands or acquiring easements, or payment of an in-lieu fee as mitigation mechanisms, would depend on the potentially considerable environmental impacts identified at specific locations, as assessed in a project-level document. DEIR/S page 3.8-18.

**Geology and Soils:** "Mitigation for potential impacts related to geologic and soils conditions must be developed on a site-specific basis, based on the results of more detailed (design-level) engineering geologic and geotechnical studies." DEIR/S page 3.13-13.

**Biological Resources:** "Consultation with the appropriate resource agencies to develop site-specific avoidance and minimization strategies would be incorporated in the project-level environmental review." DEIR/S page 3.15-31.

**4(f) and 6(f):** Possible mitigation measures include sound walls, visual buffers/landscaping and modification of access to the resources. Strategies would be developed during the public input process. DEIR/S page 3.15-13.

For a number of the impacts identified above, the DEIR/S proposes deferring the development of mitigation measures until project-level review. CEQA and NEPA, however, require the Authority to identify feasible mitigation measures prior to taking an action that would rely on those mitigation measures. The Authority may not defer the requirement to identify feasible mitigation measures simply by deferring the analysis in a "program" EIR.<sup>65</sup>

In the case at hand, the Authority has indicated that it intends to choose a preferred alignment between the Central Valley and the Bay Area solely on the basis of the analysis in the DEIR/S. In order to make such a choice, the DEIR/S must first fully analyze all the potential impacts that may arise if a particular alignment is chosen and it must also identify feasible mitigation measures to address these impacts. Each of the impacts identified above could face unique mitigation difficulties or costs as the HST passes through the GEA. Such

<sup>65</sup> *Stanislaus Nat'l Heritage Project v. County of Stanislaus* (1996) 48 Cal.App.4th 182, 199.

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difficulties could well tip the balance in the selection of a preferred alignment between the Central Valley and the Bay Area.

Identification of feasible mitigation measures after an alignment has already been chosen would defeat CEQA's goal of informed decisionmaking. The DEIR/S must be revised to identify specific, feasible mitigation measures for these impacts.

### D. The DEIR/S Fails To Adequately Analyze The Potential Biological Impacts Of The HST On GEA Wildlife And Habitat

The DEIR/S fails to make sufficient analysis of the Project impacts on the biological resources of the GEA to permit an informed consideration of the implication of choosing one alignment over the other. Once the presence of the biological resources in the GEA have been identified and described, the DEIR/S must then analyze how the direct and indirect impacts of the project and cumulative projects would affect these resources.<sup>66</sup> Direct and indirect significant effects of the project on the environment shall be clearly identified and described, giving due consideration to both short-term and long-term effects.<sup>67</sup> The discussion should include relevant specifics of the area, the resources involved, physical changes, and alterations to the ecological systems.<sup>68</sup>

The DEIR/S fails to either analyze the project's biological impacts on the GEA or to identify potential related mitigations. What little analysis that the DEIR/S does provide of the project's biological impacts is extremely cursory and incomplete. The discussion that there is of biological resources and wetlands in the DEIR/S merely provides narrative lists of species that may be potentially affected by the project. There is no meaningful analysis of the potential for the project to adversely affect the species via direct, indirect, or cumulative impacts and, consequently, no identification of specific, feasible alternatives.

Furthermore, the DEIR/S admits that the data it has relied upon in making its analysis is incomplete, stating that "[g]iven the data sets, the lack of identification of an impact does not necessarily mean that this portion of the proposed alternative would not result in potential impacts on biological resources, only the location-specific data would be required to make a more precise

<sup>66</sup> CEQA Guidelines Section 15126(a).

<sup>67</sup> *Id.*

<sup>68</sup> *Id.*

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determination."<sup>69</sup> The failure to provide location-specific analysis of biological impacts is fatal to the DEIR/S' stated purpose of providing sufficient analysis to permit an informed selection of a preferred alignment between the Central Valley and the Bay Area. The Authority cannot base a possible selection of a preferred alignment through the GEA on such incomplete data.

A complete analysis of the potential biological impacts of the HST on the GEA is essential due to the considerable importance of this area. As discussed in more detail above, the GEA constitutes the most important waterfowl wintering area on the Pacific Flyway, and international treaties have recognized the habitat as a resource of international significance. The complex of wetland habitats within the GEA is of special significance because the size, juxtaposition, and connectivity of the different wetland types provide a unique opportunity to sustain native migratory and resident wildlife populations.<sup>70</sup> The associated uplands surrounding the semi-permanent wetlands are also of special importance, because they provide nesting areas for waterbirds, important food sources for grazers such as geese, and essential habitat for endangered species and numerous upland wildlife. Over one million waterfowl winter in the GEA each year and the GEA provides critical habitat for over 550 species of plants and animals, including 47 plant and animal species that are endangered, threatened or candidate species under state or federal law.

Prior to the selection of an alignment through this area, a complete assessment of all the Project's potential biological impacts on this important ecological resource must be made. These potential impacts include interruption of habitat connectivity, train noise and vibration impacts, shock wave impacts, train collisions with large animals, water quality impacts and construction impacts.

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<sup>69</sup> DEIR/S at 3.15-3.

<sup>70</sup> Exhibit 11, Fredrickson, Leigh H. and Laubhan, Murray K., *Land Use Impacts and Habitat Preservation in the Grasslands of Western Merced County, CA* (February 1995).

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### 1. The DEIR/S Fails To Analyze The Impact The Proposed Pacheco Route Would Have Due To Its Bisection And Fragmentation Of The Grassland Ecological Area

#### a. Interference With Wildlife Corridors

The Proposed Pacheco alignment runs right through the Grassland Ecological Area, fragmenting a critical southern spur of the Grassland Ecological area from the rest of the contiguous wetlands and isolating another small section of wetlands as well. This route cuts across the southern part of the Volta State Wildlife Management Area and the Los Banos State Wildlife Management Area (the oldest Wildlife Management Area in the state - created in 1929) and severs the important wildlife corridor connecting the North and South grasslands.<sup>71</sup>

The proposed Pacheco alignment would thus create a physical barrier bisecting the GEA and would likely result in significant fragmentation impacts on the wetland habitat and wildlife.<sup>72</sup> Such potential impacts include interference with wildlife movement and migration corridors, interference with drainage and the flow of irrigated water through the managed wetlands and interference with access to hunting clubs. The DEIR/S itself states "Segments that would be placed at grade (cut and fill) would require fencing the HST alignment for the safety of humans, as well as protection from train-wildlife collisions, and would have the potential to interfere with wildlife movement."<sup>73</sup>

These impacts could be dire. A recent study, found that "if growth of Los Banos toward the east were to fragment and isolate the North from the South Grasslands, this could have a profound effect on the movement of waterfowl between different parts of the refuges they now utilize on a daily basis."<sup>74</sup> Indeed, noted conservation biologist Reed Noss found that "[a]ny further fragmentation of this vulnerable linkage between the north and south units of the Grassland Management Area could well provide the 'final blow' in fragmenting the

<sup>71</sup> See Exhibit 1, Map of Federal, State and Privately Owned Lands in GEA. Pacheco Alignment is proposed to run just north of and parallel to Henry Miller Road, isolating the sections of the GEA south of this area.

<sup>72</sup> Exhibit 4, *Dr. Weissman Comments*.

<sup>73</sup> DEIR/S at p. 3.15.

<sup>74</sup> Exhibit 8, *Grasslands Water District*, *supra*.

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wetland ecosystem."<sup>75</sup> The proposed Pacheco Pass alignment of the HST could very well be this final blow.

The DEIR/S does state that construction of wildlife underpasses, bridges, and/or large culverts, could be considered to provide wildlife movement corridors;<sup>76</sup> however, no specifics or analysis are given regarding such mitigation measures. A few underpasses alone may not be sufficient to address this impact. Fragmentation does not require complete separation. Rather:

it is a relative and cumulative problem. After some threshold of fragmentation is exceeded, movement of individuals will no longer occur regularly enough to maintain the population of a fragmentation-sensitive species. Until detail, long-term studies of species in the [GEA] are performed, the prudent course is to prevent any further fragmentation of the system. Indeed, professional opinion among scientists is now firm that the burden of proof in such matters must rest on those who propose activities that may fragment or otherwise degrade ecosystems.<sup>77</sup>

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The DEIR/S must provide evidence for the success of the proposed mitigation measures in a wetland environment like the GEA and provide more detail on the number, location and type of such structures to facilitate wildlife movement across the railroad right-of-way. Without such information the impact of the proposed Pacheco Pass alignment on the GEA cannot be fairly assessed.

#### b. Disruption Of Canals And Waterways

Wetland ecosystems are also sensitive to disruption of water flow and other hydrological impacts that accompany fragmentation.<sup>78</sup> For example,

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<sup>75</sup> Exhibit 9, Thomas Reid Associates, *Grassland Water District Land Planning Guidance Study* (1995), Appendix A (Noss, R.F., *Translating Conservation Principles to Landscape Design for the Grassland Water District* (1994)), p. 47.

<sup>76</sup> DEIR/S at p. 3.15-31.

<sup>77</sup> Exhibit 9, Thomas Reid Associates, *Grassland Water District Land Planning Guidance Study* (1995), Appendix A (Noss, R.F., *Translating Conservation Principles to Landscape Design for the Grassland Water District* (1994)), p. 47.

<sup>78</sup> *Id*; see also Exhibit 3, *Dr. Weissman Comments*.

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drainage canals, dikes, and roads have had severe effects on the hydrology, vegetation, flora and fauna of the Everglades.<sup>79</sup>

In the case at hand, the proposed Pacheco Pass route would bisect several waterways within the GEA essential to the management of these critically important wetlands and wildlife habitat.<sup>80</sup> The Santa Fe and San Luis Canals convey water to more than 31,000 acres of public and privately owned wetlands. Mud Slough South (a natural channel) and the Porter-Blake Bypass serve as drainage facilities for thousands of acres of additional wetlands thus making possible the timely release of water, a crucial element in the management of seasonal habitat.

The DEIR/S, however, fails to even identify these waterways, much less analyze the potential impacts the Project may cause by bisecting them. Furthermore, no mitigation measures are proposed or identified to ensure that the design and construction of the project will not impede the flow and maintenance of water in these channels. Without such information the impact of this alignment on the GEA cannot be fairly assessed.

The bisection of these waterways by the HST may also have a significant impact on important wildlife corridors. Among the threatened species that would likely be affected by the bisection of the GEA is the giant garter snake (*thamnophis gigas*), a state and federally listed threatened species.<sup>81</sup> This snake is not only historically known in the GEA, but it has been recently documented in waterways both north and south of the City of Los Banos.<sup>82</sup> These snakes were found in both natural channels and water conveyance canals. It is well documented that the giant garter snake inhabits waterways, including irrigation and drainage canals, sloughs, and low gradient streams.

The San Luis Canal, which would be bisected by the HST project, has been found to contain the necessary habitat components for the giant garter snake, including: adequate water during the snake's active season, populations of food organisms, emergent, herbaceous wetland vegetation for escape

<sup>79</sup> *Id.*

<sup>80</sup> Exhibit 7, *Don Marciocchi Letter*.

<sup>81</sup> Exhibit 15, *Dean Kwasny letter*.

<sup>82</sup> *Id.*

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cover and foraging, and grassy banks and openings in waterside vegetation for basking.<sup>83</sup> In addition, the San Luis Canal functions as a movement corridor for the giant garter snake.<sup>84</sup>

The DEIR/S, however, fails to identify the potential for interference with waterway habitats and corridors. The Authority must assess the threat the HST project may pose to the green garter snake's habitat and waterway corridor before it commits itself to a particular HST alignment.

### c. Interference With Access To Hunting Clubs

The proposed bisection of the GEA by the HST also poses the potential to impede the access of GWD members to their hunting clubs.<sup>85</sup> The continued protection of these privately managed wetlands depends largely on the continued viability of these lands as private duck hunting clubs. Currently, 181 duck hunting clubs exist within the GWD and the GRCD. The DEIR/S fails to consider the impact that its proposed Pacheco Pass alignment may have on access to these clubs. This issue must be examined prior to any final decision being made as to the selection of this route.

## 2. Noise And Vibration

The DEIR/S compares the various routes for noise sensitivity and compares the HST alternative with the other alternatives. However, the DEIR/S never states anything about what the actual noise exposure would be in decibels, at varying distances from the track. The DEIR/S offers no quantitative analysis of impact and never clearly reveals to the public how much noise the trains produce.

A broad estimate of actual noise exposure can be derived from the Federal Railroad Administration (FRA) report which informs us that an electric locomotive train passby (2 engines, 10 passenger coaches) at a maximum speed of 150 mph in a flat area with no shielding will produce an Lmax sound level of 99 dBA at 50 feet from the train.<sup>86</sup> That study rates as a "severe impact" any case

<sup>83</sup> *Id.*

<sup>84</sup> *Id.*

<sup>85</sup> *Id.*

<sup>86</sup> Exhibit 4, *Dr. Weissman Comments*.

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where the project noise exceeded 60 dBA where the ambient noise level was near 50 or 55 dBA Ldn, as would be the case in the study area, according to the analysis of Dr. Weissman.<sup>87</sup> The FRA report also stated that the threshold for significant noise impacts on wild birds and mammals is a sound level of 100 dB SEL. The SEL is a measure of all sound energy during an event expressed as the equivalent sound level with a duration of one second.

Figure 2.6-1 of the DEIR/S shows that the HST will be operating at speeds in excess of 200 mph in the Stockton to Bakersfield and Merced to Gilroy segments, so the noise impact would actually be greater than that estimated in the sample case analyzed in the FRA report. In her attached comments, Dr. Weissman examines the available data on this issue and estimates that the Lmax noise from the train at 200 mph would be around 101.5 dB.<sup>88</sup> Even at high speed, the train will take three to four seconds to pass a point receptor. This means the SEL at 50 feet distance is probably around 105 to 110 dB. With 3 dB drop-off per doubling distance for a line source, the high-speed train will likely exceed the FRA significance threshold for wild birds and mammals out to a distance of 500 feet.<sup>89</sup>

Train frequency determines the overall impact of the project. The DEIR/S (Summary p. S-4) states that there would be 86 weekday, intercity trains envisioned by the project by 2020. A chart in Appendix E, to a technical report on operations that lay out the proposed schedule of trains for the Pacheco route, shows that 134 total daily trains would pass through Los Banos (not all stopping). This is an average of a train every 11 minutes, but as much as a train every 5 minutes during the busy portion of the business day. The high frequency means that startle effects will be frequent and that the overall sound level will rise substantially.<sup>90</sup>

Noise disturbances of wildlife in the GEA are of significant concern. Noise disturbances may displace waterfowl from feeding grounds, cause desertion of nests, increase energetic costs associated with flight, and may lower productivity of nesting or brooding waterfowl, among other impacts.<sup>91</sup> The EIR must evaluate the

<sup>87</sup> *Id.*

<sup>88</sup> *Id.*

<sup>89</sup> *Id.*

<sup>90</sup> *Id.*

<sup>91</sup> Exhibit 12, U.S. Fish & Wildlife Leaflet 13.2.15; Exhibit 4, *Dr. Weissman Comments* at pp. 3-4 (citing numerous reports).

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actual likely impacts of the train noise and vibration on the sensitive wildlife species in the GEA who will be exposed to these noise levels on a daily basis before the Authority may commit to an alignment that would run through this area.

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### 3. Shock Wave

High-speed trains will produce a significant shock wave each time they pass.<sup>92</sup> The shock wave can be felt at varying distances from the train, depending upon its speed. The shock wave has been likened to the impact of a supersonic plane breaking the sound barrier. It could produce a startle response in wildlife or if birds are flying within the immediate area where the train passes, it could possibly interrupt their flight.<sup>93</sup> The DEIR/S should quantify the shock wave that emanates from the train moving at over 200 mph, and determine its potential effects on wildlife in the GEA.

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### 4. Collisions With Trains

Animals that may be crossing the tracks in the GEA can be hit by one of some 100 plus trains per day. Although a likely mitigation for the project will be subterranean tunnels to allow wildlife passage (EIR/S p. 3.15-31), there may still be substantial numbers of wildlife that attempt to cross the track at grade level and may be hit by trains.

Species at risk include the giant garter snake, San Joaquin kit fox, tule elk and bobcat.<sup>94</sup> The giant garter snake, for example, can be found as far away as 820 feet from the edge of marsh habitat; U.S. Fish and Wildlife service recommends a minimum buffer of 200 feet from the banks of giant garter snake habitat.<sup>95</sup> The HST project, however, proposes trains running by every 5 to 11 minutes right through the waterways inhabited by this threatened snake.

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The DEIR/S should estimate the mortality to each wildlife species that is vulnerable to train collisions and the effect of this mortality on the respective

<sup>92</sup> Exhibit 4, *Dr. Weissman Comments*.

<sup>93</sup> *Id.* (citing Howe M. S. "The compression wave produced by a high-speed train entering a tunnel." *Proceedings: Mathematical, Physical & Engineering Sciences* 1 June 1998, vol. 454, no. 1974, pp. 1523-1534.)

<sup>94</sup> Exhibit 4, *Dr. Weissman Comments*; Exhibit 15, Dean Kwasny letter.

<sup>95</sup> Exhibit 15, Dean Kwasny letter.

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populations. For special status species such as the green garter snake or the San Joaquin kit fox, the DEIR/S should also discuss whether these train impacts would be substantial enough to cause further decline in the status of the species, or would interfere with the recovery of the species.

### 5. Construction Impacts

The DEIR/S states that because the "construction period would last at least 10 years and the miles of corridor under construction at one time would extend across the state, these physical impacts would potentially be significant."<sup>96</sup> However, instead of identifying the potentially significant impacts from this massive construction project, the DEIR/S states that impacts and mitigation relating to construction should be addressed in subsequent analyses.<sup>97</sup> This deferral of analysis violates the core of CEQA and NEPA.

Analysis of potential construction impacts on the GEA is required before choosing a preferred alignment because this information could tip the preferred selection to a more developed route where fewer collateral impacts will be imposed to build the HST. Potential construction impacts on the GEA that must be studied in a revised DEIR/S include the impacts of truck and other vehicular traffic, equipment storage and laydown areas, blasting, and pile-driving, and temporary disruption of water supply deliveries.<sup>98</sup> If this information is not provided early in the decisionmaking process, a fully informed decision cannot be made.

### 6. Water Flow and Water Quality

The DEIR/S fails to acknowledge the potential impacts the Project may have on water flow and water quality in the GEA. The HST Project has the potential to cause significant impacts to the complex of natural and man-made channels which move water through the wetlands, establish the waterfowl habitat and support nearly all the GEA ecological functions.<sup>99</sup> Without illumination of these potential impacts, the Authority would be unable to make an informed decision as to the preferred route between the Central Valley and the Bay Area.

<sup>96</sup> DEIR/Sat 7-2.

<sup>97</sup> See DEIR/S at 3.3-3.

<sup>98</sup> See Exhibit 4, *Dr. Weissman Comments*.

<sup>99</sup> Exhibit 4, *Dr. Weissman Comments*.

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The HST would probably be constructed on an earthen berm through most of the GEA, elevated above the flood level, in the same manner as railroad lines of the 19<sup>th</sup> century (see the Santa Fe Grade as an example).<sup>100</sup> The berm would need to be wide enough for two tracks. Construction of the berm would entail tremendous wetland fill and the importation of possibly a million cubic yards of fill, depending on the actual route taken. It is unlikely that the earth for the berm could be excavated from along the route due to soil weight bearing limitations. The berm would need to be keyed in to the substrate, meaning that the organic top layer would be removed and drainage ditches and water pumps would be installed to allow engineered placement of fill. Even where trestle construction crossed water channels, there would be disturbance from clearing and pile driving.<sup>101</sup>

All that construction would alter the present water flow patterns, introduce sediment and create stagnant sections of the wetlands producing essentially permanent water quality degradation. Water quality impacts on wildlife range from altered growth of feed to increased risk of avian botulism.<sup>102</sup>

The Grassland Water District has spent much time and money managing the application of water in the Grasslands. Historically, water quality problems in the Grasslands have had a tremendous impact on wildlife. Imposition of a hydraulic barrier across the GEA will materially impact the south-to-north water management in the GEA, which is essential to maintaining water quality.<sup>103</sup> The potential impact that construction of a HST would have on water flow and water quality in the GEA must be analyzed before the Authority chooses its preferred alignment.

### E. The DEIR/S Fails To Adequately Analyze The Growth-Inducing Impacts Of HST Access In The Los Banos Area

When preparing an EIR, the lead agency must identify, discuss and analyze the growth-inducing impacts of a proposed project.<sup>104</sup> A project must be analyzed to

<sup>100</sup> *Id.*

<sup>101</sup> *Id.*

<sup>102</sup> *Id.*

<sup>103</sup> *Id.*

<sup>104</sup> CEQA Guidelines § 15126.2(d).